

## Multiple Sclerosis Fact Sheet

CIRM funds many projects seeking to better understand multiple sclerosis and to translate those discoveries into new therapies.

### Description

Multiple sclerosis occurs when the body's own immune system attacks the cells that surround and protect neurons. This protective covering is called myelin. As people lose myelin surrounding their nerves they start feeling weak or having trouble walking. Over time the disease progresses and people may end up with more severe symptoms included paralysis. About 400,000 people are living with MS in the U.S.

Some groups have had success treating MS using bone marrow transplants. In this approach, powerful chemotherapy agents eliminate a person's bone marrow cells, which include the blood-forming stem cells that produce the entire blood system including immune cells. The doctors then transplant in fresh bone marrow cells that repopulate the person's blood system with immune cells that won't attack the myelin.

Although some people have been successful with this approach, the bone marrow transplant itself is extremely risky.

CIRM funded researchers have been trying to mature stem cells into a type of cell that might be able to replace the missing myelin. The idea is that these could be transplanted into a person with multiple sclerosis, and the cells would repair damage caused by the disease.

Other groups have been trying to learn more about how the body's natural process should be repairing the damage. Their goal is to find drugs that could stimulate the body's own stem cells to replace the damaged myelin.

### CIRM Grants Targeting Multiple Sclerosis

Researcher name	Institution	Grant Title	Grant Type	Approved funds	
Thomas Lane	University of California, Irvine	Human Embryonic Stem Cells and Remyelination in a Viral Model of Demyelination	SEED Grant	\$368,081	
Samuel Pleasure	University of California, San Francisco	Human stem cell derived oligodendrocytes for treatment of stroke and MS	Comprehensive Grant	\$2,459,235	
Craig Walsh	University of California, Irvine	Multiple Sclerosis therapy: Human Pluripotent Stem Cell-Derived Neural Progenitor Cells	Early Translational III	\$4,535,005	
Peter Schultz	Scripps Research Institute	Targeting Stem Cells to Enhance Remyelination in the Treatment of Multiple Sclerosis	Early Translational III	\$2,559,333	
					Total: \$9,921,654.00

### CIRM Multiple Sclerosis Videos



Jeanne Loring, Scripps - CIRM Stem Cell  
#SciencePitch: Multiple Sclerosis



Advancing Toward Multiple Sclerosis  
Therapies Using Stem Cells



Living with Multiple Sclerosis: Hope for Stem  
Cell Therapies | Nan Luke

## News and Information

- Mending the Mind (CIRM)
- Could stem cells reverse MS? (UC Irvine)
- CIRMResearch blog entries on multiple sclerosis

## Resources

- NIH: Multiple Sclerosis Information
- Find a clinical trial near you: NIH Clinical Trials database
- National Multiple Sclerosis Society
- Multiple Sclerosis Foundation
- Multiple Sclerosis Association of America
- Guthy Jackson Charitable Foundation
- Stem Cell Network multiple sclerosis page
- Family Caregiver Alliance
- National Family Caregivers Association

### Find Out More:

Stem Cell FAQ | Stem Cell Videos | What We Fund

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